Mississippi River had less suitable littoral conditions and supported six or fewer species because of water level fluctuations, lack of flow, and/or sediment accumulation. They were, however, inhabited by four species not found in Lake Chicot.

Acknowledgments

This paper is a contribution of the USDA Sedimentation Laboratory, Agricultural Research Service. Research on Lake Chicot was done in cooperation with the U.S. Army Corps of Engineers, Vicksburg District. The author wishes to thank Scott Knight for field assistance and Paul Hartfield, Invertebrate Curator, Mississippi Museum of Natural Sciences and Dr. David Stansberry, Ohio State University for species verification. Dr. J. R. McHenry was the USDA principal investigator over the entire Lake Chicot project.

LITERATURE CITED

Branson, B. A. 1966. Unionid records from Kansas, Arkansas and Louisiana. *Sterkiana* **23**:7–8.

Meek, S. E. and Clark, H. W. 1914. The Mussels of the Big Buffalo Fork of the White River, Arkansas. Washington, D.C., U.S. Dept. of the Interior, *Bureau of Fisheries, Document No. 759*. 20 p.

Price, R. E. and L. A. Knight, Jr. 1977. Mercury, Cadium, Lead, and Arsenic in sediments, plankton and clams from Lake Washington and Sardis Reservoir, Mississippi. *Jour. Pest. Mon.* **11**:182–189.

Saucier, R. T. 1967. Geological Investigation of the Boeuf-Tensas Basin, Lower Mississippi Valley. US Army Waterways Experiment Station, Corps of Engineers. Technical Rpt. No. 3-757.

Vanatta, E. G. 1909. Unionidae from southeastern Arkansas and N. E. Louisiana. *The Nautilus* **23**:102–104.

Wheeler, H. E. 1914. The Unionefauna of Cache River, with Description of a new *Fusconaia* from Arkansas. *The Nautilus* **28**:73–78.

A NEW *HUMBOLDTIANA* (PULMONATA: HELMINTHOGLYPTIDAE) FROM EXTREME EASTERN CHIHUAHUA, MEXICO

Artie L. Metcalf
Department of Biological Sciences
University of Texas at El Paso
El Paso, Texas 79968

ABSTRACT

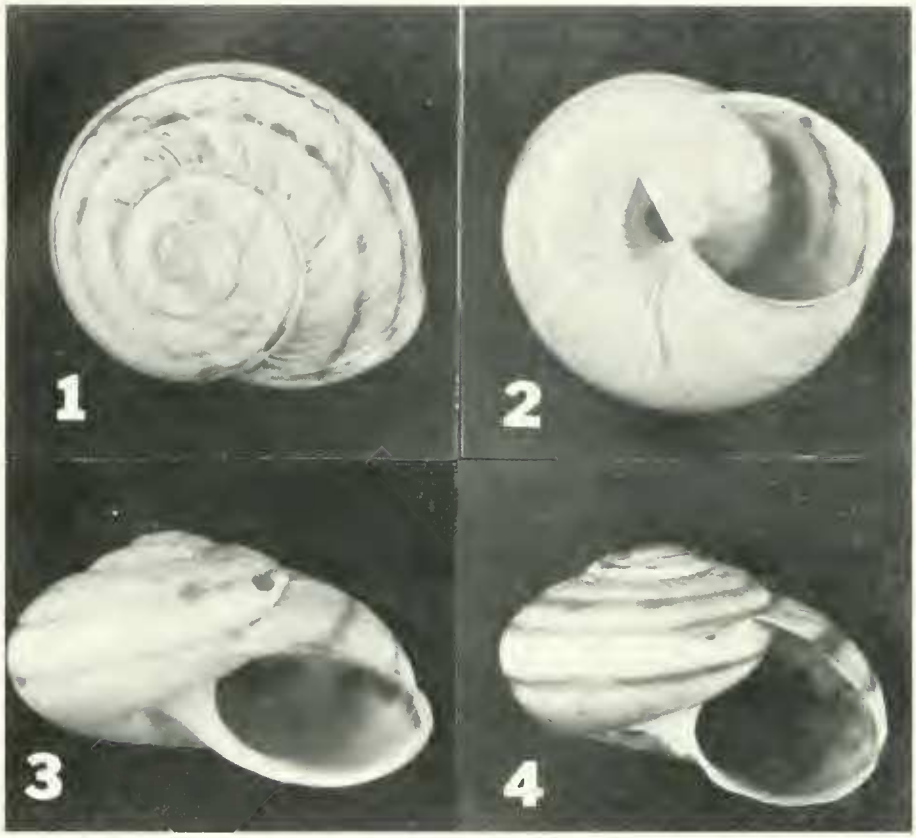
A new species of pulmonate land snail, described from shells, is assigned provisionally to the helminthoglyptid genus Humboldtiana. *The shells are unusual for the genus in being relatively small, depressed, smooth and glossy. Types were collected in the Sierra Santa Eulalia, Chihuahua, Mexico.*

The species described herein was collected on 23 March 1982 by Mr. Wally Lippincott (U.S. Department of Agriculture, Lake Worth, FL), who kindly sent them to me in June 1982. The lot consisted of four specimens, one of which contained a desiccated body. At first glance, the general configuration of the shells suggested a member of the genus *Sonorella*. However, despite the atypical shell morphology, other features seem to indicate that the species belongs to the genus *Humboldtiana*.

***Humboldtiana eulaliae**, new species*
(Figs. 1-4)

Diagnosis: A relatively small *Humboldtiana*, with depressed shell, rounded peripherally, low spire and slightly reflected outer lip. The shell exhibits 3 brownish spiral bands, very weak growth lines and is smooth and glossy.

Description of Holotype: Shell depressed, 28.1 mm in diameter and 17.2 mm high; smoothly rounded peripherally; spire low, rising gradually to height of 8.5 mm with angle of *ca.* 135°; 4.3



FIGS. 1-4. *Humboldtiana eulaliae* new species, Metcalf, from the west side of the Sierra Santa Eulalia, eastern Chihuahua, Mexico. **1-3,** holotype (28.1 mm in diameter), 4, paratype *a*.

whorls, with body whorl moderately descending; aperture slightly ovate, 13.0 mm wide and 10.6 mm high, inclined at an angle of *ca.* 45° to the vertical, columellar portion of peristome covering about ⅓ of the umbilicus and outer portion forming a slightly thickened and reflected lip; first 2 whorls light tan and glossy with exceedingly fine growth lines except stronger on inner part of whorl near the suture on second whorl; after second whorl, low but clearly distinguishable growth lines cross entire whorl, occurring both dorsally and ventrally, but remaining low and weakly developed, giving the shell a relatively smooth appearance, overall. The shell is empty and slightly bleached; shell color beyond the embryonic whorls whitish except for presence of 3 brownish bands; uppermost band originating as faint gray, interrupted segments in center of whorl 3 and becoming more continuous and brownish in color on whorl 4; middle band originating as continuous tan band alongside suture at 2.1 whorls; lower band first observed slightly below periphery of body whorl near upper terminus of lip; all bands most strongly developed on terminal portion of body whorl near reflected lip.

Paratypes: Three shells (*a*, *b*, and *c*) were obtained in addition to the holotype. Measurements of these, in order *a*, *b*, *c*, are: width: 26.7, 24.9, 20.8; height: 16.9, 14.8, 12.5; whorls: 4.1, 3.6, 3.7. Shells *a* and *c* are fresh and shell *c* (a juvenile) contains a desiccated body. Both have broken lips and *c* retains fragments of a calcareous epiphragm. In the month of March (dry season) it was, no doubt, sealed by the epiphragm to a stone. Unlike the holotype, shells *a* and *c* have not suffered bleaching and have a light grayish brown background color. The brownish bands are slightly wider and darker in color than in the holotype (see specimen *a* in Fig. 4). Faint growth lines are better discerned on the embryonic whorls than in the holotype; however,

the shells, overall, have a smooth and slightly glossy appearance. Shell *b* is greatly bleached and coated with calcium carbonate dorsally. It appears to be fossil or subfossil.

Etymology: The epithet *eulaliae* refers to the saint after which is named the Sierra Santa Eulalia, the type locality.

Type locality: The types and paratypes are reported by Mr. Wally Lippincott as being taken on the west side of the Sierra Santa Eulalia in easternmost Chihuahua, Mexico, near the border with the state of Coahuila, in an area centering around 27°12′N; 103°47′36″W. On the DETENAL 1:50,000 topographic quadrangle for Guimbalete (G-13, B-44) the locality is indicated by the collector as along walls of a canyon debouching southwestward about midway of the Santa Eulalia range. The mouth of the canyon is 1.3 km E of "El Pinolero" and 7.5 km N and 1.5 km E of "Penoles" on the Guimbalete quadrangle. The canyon is *ca.* 2.5 km long, heading at *ca.* 1650 m and debouching at *ca.* 1250 m. Mr. Lippincott writes (*in litt.*, 26 June 1982): "Within the canyon the snails were taken from the south facing ledges. These ledges were approximately 10-20 meters above the dry creek bed. They were characterized by smooth, broken up stones interspersed between talus areas. The snails were taken from under the smooth rocks."

Disposition of Types: Holotype: National Museum of Natural History, USNM 820297; Paratypes: University of Arizona 6262 (shell *a*), University of Texas at El Paso 8785 (shells *b* and *c*).

Discussion: The mountains of eastern Chihuahua and adjacent Coahuila are almost unknown malacologically. In the region, two species have been described that are provisionally assigned to *Humboldtiana*: the present one and *H. plana* Metcalf and Riskind, 1976. Shells of both these species are atypical of *Humboldtiana* in general. Further collecting in these areas will probably reveal other new species and eventually should lead to an understanding of the relationships of these unusual shells.

LITERATURE CITED

Metcalf, Artie L. and David H. Riskind. 1976. A New *Humboldtiana* (Pulmonata: Helminthoglyptidae) from Coahuila, Mexico. *The Nautilus* **90**(3):99–100.

FRESHWATER MUSSELS (BIVALVIA: UNIONIDAE) OF MONROE COUNTY, WEST VIRGINIA

Michael A. Zeto
West Virginia Department of
Natural Resources
Division of Water Resources
350 North Vance Drive
Beckley, West Virginia 25801

and

John E. Schmidt
West Virginia Department of
Natural Resources
Division of Water Resources
1201 Greenbrier Street
Charleston, West Virginia 25311

ABSTRACT

A survey of the mussel fauna of Monroe County, West Virginia, was conducted during the spring of 1983 and 1984. This survey included samples from the Greenbrier River, Indian Creek, and South Fork of Potts Creek. Twelve species of unionid mussels and Corbicula fluminea *were collected from these three watersheds, including a new state record,* Canthyria collina, *which is found in the South Fork of Potts Creek.*

Information on the extant mussel populations of West Virginia was extremely limited until the past decade. Mussel surveys conducted during this period, especially in the past five years, has greatly enhanced this information. This study was performed in conjunction with a statewide